

**TITLE: SABRE™404 and 408 Router X-Axis Encoder**

**Gerber FastFact #:** 2042

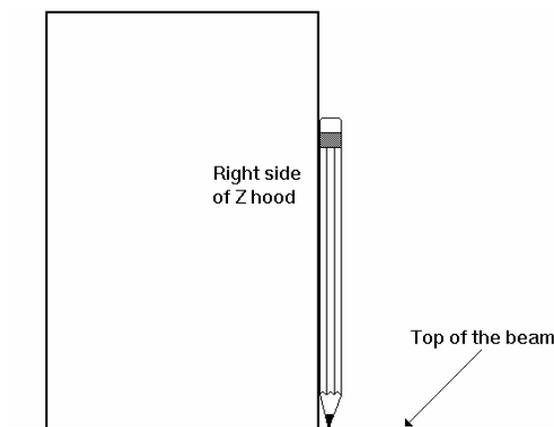
**Supplied by:** Gerber Hardware Support

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**Summary:** The following procedure explains how to set the encoder index pulse following any disassembly of the axis drive train, such as lead screw, drive belt or drive motor replacement.

### ***Verifying the encoder pulse position***

- 1 Put a piece of 2" wide paper tape on the top of the beam starting at approximately 10" and ending at approximately 14" from the left end of the beam.
- 2 Plug in and turn on the router.
- 3 Slew the beam to approximately 1" from the front of the table. Slew the carriage to approximately 1" from the left side of the table. Lower the Z-axis down almost to the bottom.
- 4 Push the A key on the keypad to orient the router. The beam comes forward and stops and the carriage starts to move to the left. Once the carriage enters the left limit switch it will pause before it starts to move towards the right to back out of the limit switch.
- 5 When the carriage finishes moving to the right, use the right side of the Z hood as a ruler to draw a line on the tape. It is very important that your measurements are consistent. To achieve this, each time hold a pencil firmly against the right side of the Z hood as shown in the illustration below.



- 6 After the carriage finishes moving to the right, draw another line on the tape.



*Note: Once you press A, the X and Y-axes orient very quickly while the Z-axis takes longer to orient. After X axis movement stops, immediately mark the tape. When the Z-axis movement stops, mark the tape again. Be certain to hold the pencil at the same angle against the right side of the Z hood or the marks may not be correct.*

- 7 Measure the distance between the two marks on the tape. If it is 0.160 – 0.200 inches (4 – 5 mm), the X orientation is correct. Reattach the left and right side beam covers. Be sure to route a test job before resuming production. If the distance is not to spec, continue the procedure.
- 8 Make a third mark on the tape to the right of the first mark that is 0.180 (4.5 mm) away from the first mark.
- 9 Inside the right end of the beam, loosen the motor pulley clamp.
- 10 Reach under the beam and turn the lead screw to move the carriage so that the pencil pushed against the right edge of the Z hood is aligned with the mark you made at Step 9 above.
- 11 Tighten the motor pulley clamp. Do not align the slot in the motor pulley clamp with the slots in the motor pulley.
- 12 Turn off the router, and then perform Steps 2-12 until the X orientation is correct.